Table S1 Soil physical and chemical Property Information for three soil types

Soil type	AN (mg/kg)	AP (mg/kg)	SOM(%)	SMC(%)	pH
Yellow-brown soils	132.65±60.19b	9.63±5.83b	4.44±1.53c	31.87±9.58c	6.48±0.61a
Brown soils	152.05±52.28b	11.31±7.81b	6.29±2.28b	38.07±9.62b	6.32±0.47a
Cinnamon soils	201.74±56.46a	16.34±7.68a	7.93±2.48a	44.97±3.84a	6.37±0.47a

Table S2 Illumination information for three soil types

Soil type	ALA	CC	DR	TR	SR	LAI	LT	WR
Yellow-brown soils	42.06±1.55a	0.66±0.01a	3592.89±43.46a	4105.83±45.73a	512.93±4.79a	1.86±0.03a	0.18±0.01a	22.75±6.01a
Brown soils	42.72±1.37a	0.66±0.01a	3609.74±41.71a	4122.60±43.90a	512.85±7.00a	1.88±0.02a	0.19±0.01a	23.32±6.52a
Cinnamon soils	42.47±1.26a	0.66±0.01a	3609.46±62.84a	4123.22±66.78a	513.76±6.84a	1.87±0.02a	0.19±0.01a	23.80±7.13a

Table S3 Topographic information for three soil types

Soil type	Slope	Aspect	Convex	Meanelev
Yellow-brown soils	24.69±2.78a	203.09±44.92a	-1.10±3.28b	1574.21±8.36a
Brown soils	25.14±3.18a	185.44±47.81b	0.47±2.67a	1569.71±10.21a
Cinnamon soils	24.86±4.44a	179.20±48.78b	0.09±2.75b	1569.30±10.36a